SERVICE MANUAL

FISHER

CA-270

Integrated Stereo Amplifier

(EUROPE)

132 287 41

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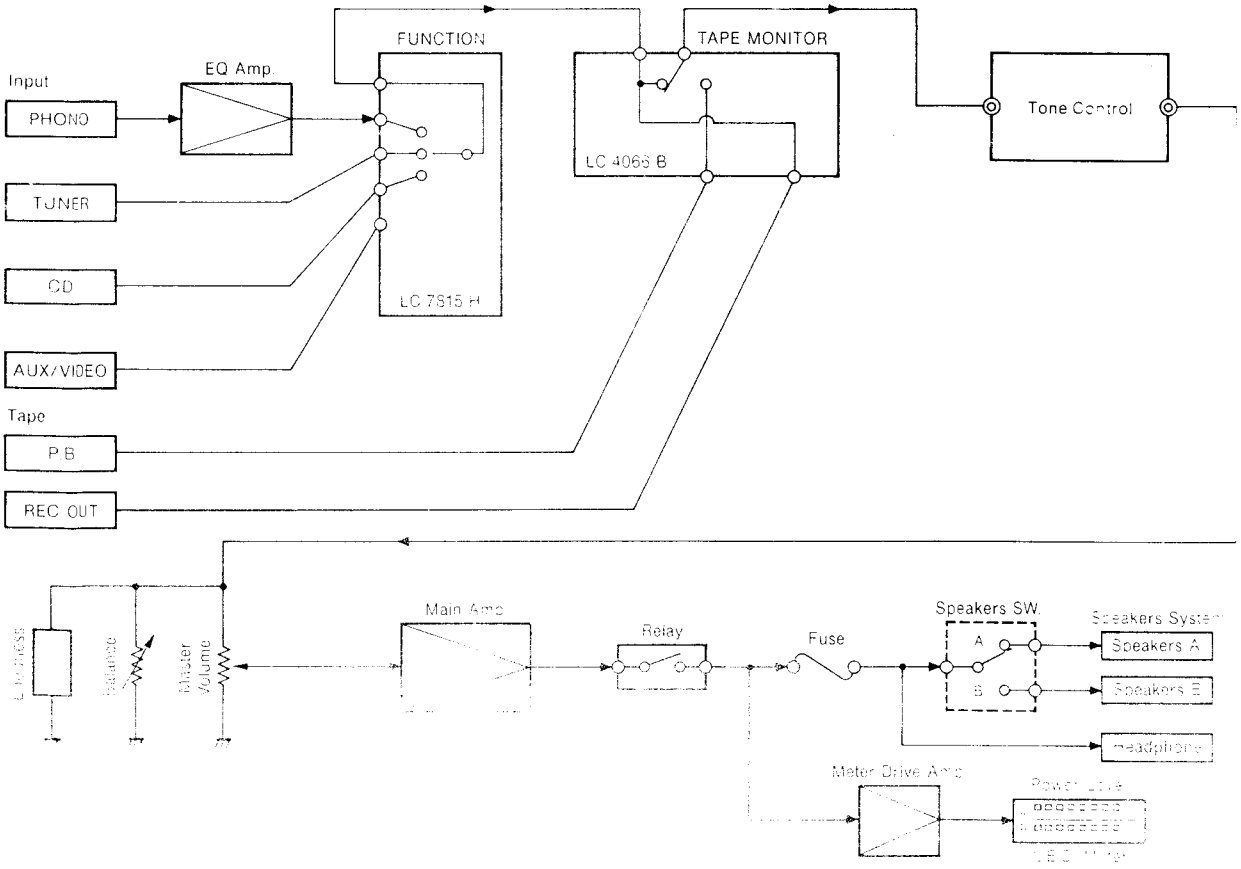
FUNCTIONAL BLOCK DIAGRAM

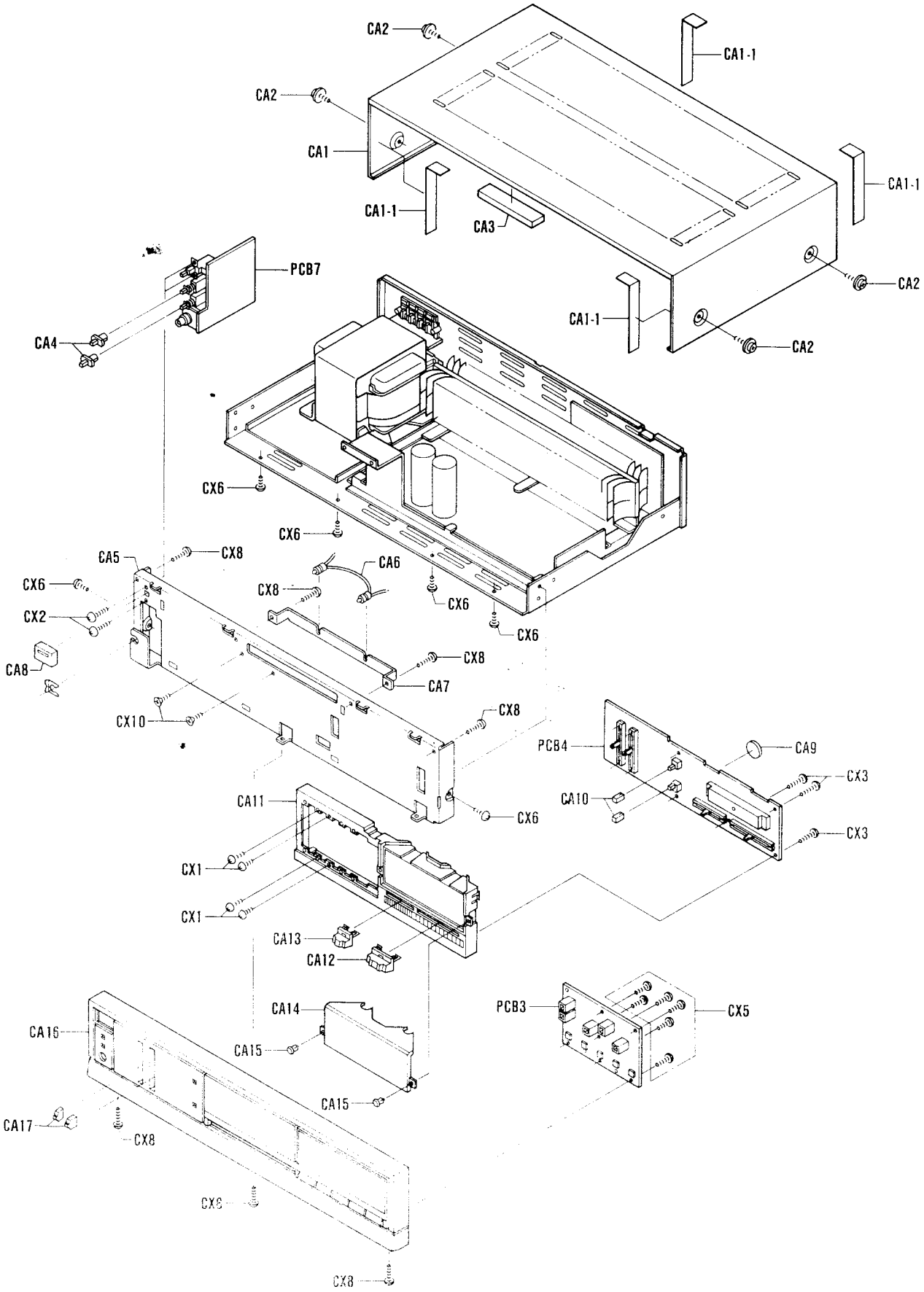


SPECIFICATIONS

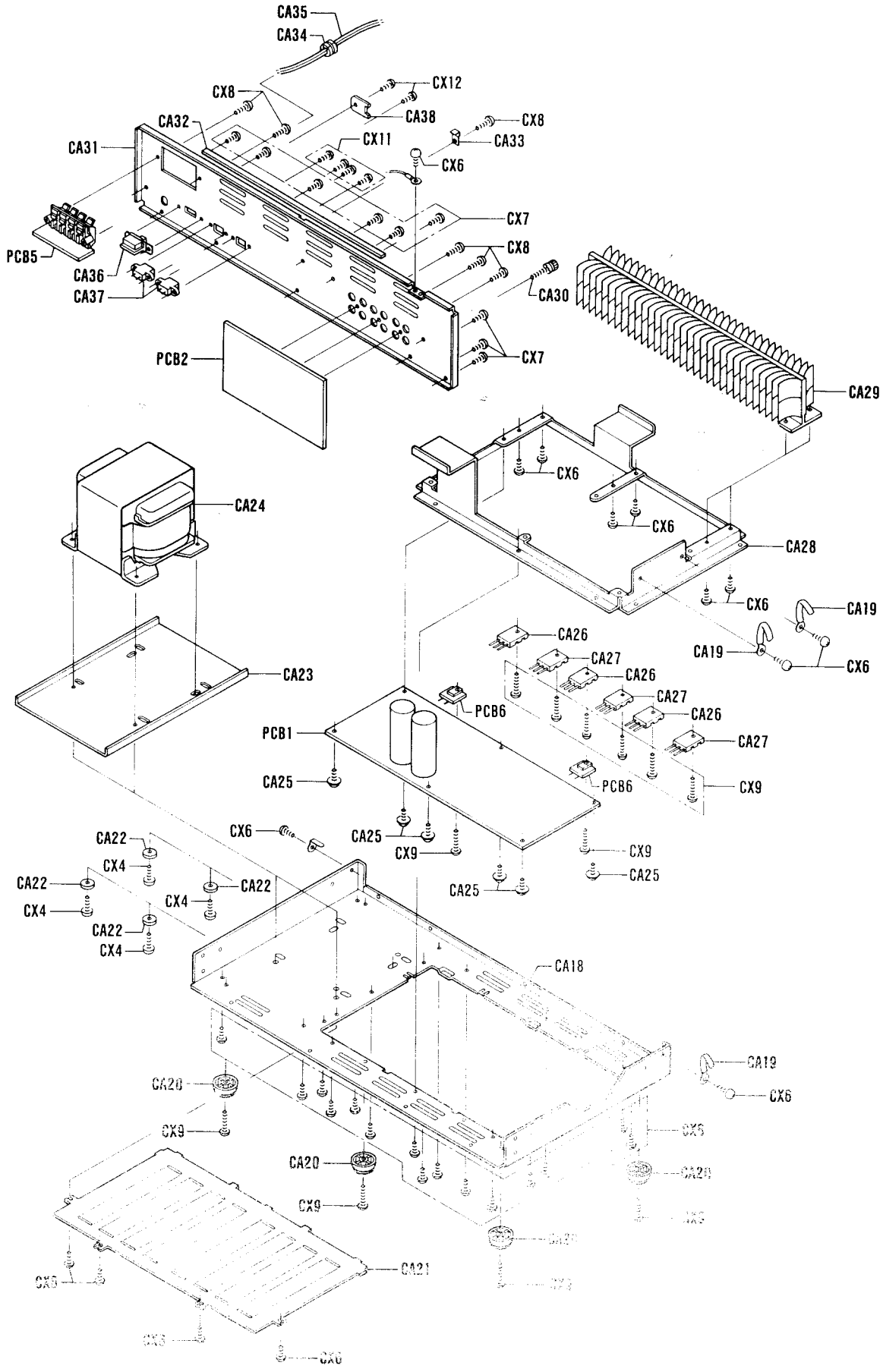
AMPLIFIER		CA-270
POWER AMPLIFIER SECTION **Minimum RMS sine wave power per channel within stated bandwidth at no more than stated distortion and with 8-ohm load**		**100 Watts**
Power Bandwidth		**20 Hz – 20 kHz**
Total Harmonic Distortion		**0.05 %**
I.M. Distortion		0.05 %
Speaker Damping		> 20
PREAMPLIFIER SECTION Frequency Response	Phono (RIAA)	±1 dB
	Aux (20 Hz – 20 kHz)	±1 dB
Input Sensitivity and Impedance	Phono	2.5 mV/50 kΩ
	Tape Monitor	150 mV/50 kΩ
	Tuner/Auxiliary	150 mV/50 kΩ
Phono Max. Input Capability	Phono	125 mV
Tone Controls	Bass (100 Hz)	±10 dB
	Treble (10kHz)	±10 dB
Loudness Contour (100 Hz/10 kHz)		+8 dB/+4 dB
Hum & Noise (IHF Short Circuit, A Network)	Phono	70 dB
	Tape Monitor	90 dB
	Tuner/Auxiliary	90 dB
GENERAL Power Requirements (50 Hz)		110 / 120 V AC
Power Consumption		480 Watts
Dimensions (W x H x D)		440 x 270 x 110 mm
Weight (approx.)		8.4 kg

Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

CABINET & CHASSIS EXPLODED VIEW (1)



CABINET & CHASSIS EXPLODED VIEW (2)



PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	PACKING PARTS LIST		
	3-9415-10300	Bag Polyethylene	1
	131-6-2119-02090	Bag Polyethylene-Exp.	1
	131-6-3069-16350	Patching Sheet	1
	131-6-9459-00300	Rubber Band	1
	141-6-1139-86227	Outer Cor Carton	1
	141-6-1469-00400	Pad Top	1
	141-6-1469-04000	Case Styrofoam (Left)	1
	141-6-1469-04001	Case Styrofoam (Right)	1
	141-6-4559-03300	Serial No. Sheet	1
	ACCESSORIES PARTS LIST		
	131-6-2719-10801	Bag Fan	1
	131-6-4519-15700	Guarantee Certificate	1
	131-6-4559-11200	Serial No. Sheet	1
	142-6-4119-32454	Explanatory Booklet	1
	CABINET & CHASSIS PARTS LIST		
	4-2379-21520	Terminal Lug	2
	131-2-7103-26100	Label	1
	141-2-1219-03300	Serial No. Sheet	1
	131-6-4559-10900	Manufacturing No.	1
CA1	131-2-1410-33100	Cover	1
CA1-1	131-2-3202-13400	Metal Reinf	4
CA2	141-2-4219-38400	Screw, Bind Hd. Tapping-B Sems +M4.0x8	4
CA3	131-2-5205-33300	Cushion	1
CA4	131-2-1601-69601	Knob (Speaker Selector)	2
CA5	141-2-2149-24300	Panel Front	1
CA6	4-6129-70660	Lamp	1
CA7	131-2-3310-18000	Metal Mount Lamp	1
CA8	131-2-1601-91600	Knob Power	1
CA9	131-2-5205-33500	Cushion	1
CA10	131-2-1601-91700	Knob Push	2
CA11	141-0-3519-24400	Mount P.C.B. Assy	1
	141-2-3519-74300	Mount P.C.B.	1
	141-2-1449-65100	Screen LED	1
CA12	131-2-1601-91900	Knob Volume	1
CA13	131-2-1601-92000	Knob Balance	1
CA14	131-2-3608-16400	Filter	1
CA15	131-2-4221-00600	Rivet	2
CA16	131-0-1016-44500	Panel Decorate Assy	1
	131-2-1205-28800	Decorate Plate Dial	1
	131-2-1601-91800	Knob Function	1
	141-2-1129-15800	Cabinet Front	1
	141-2-1449-61208	Plate Front	1
	141-2-1449-65000	Plate Decorate	1
	141-2-2899-43500	Adhesive Film	2
	141-2-2899-43600	Adhesive Film	2
CA17	141-2-1659-35900	Knob Slide	2
CA18	141-2-3119-25400	Chassis	1
CA19	131-0-3016-10400	Cramp Wire Assy	3
CA20	131-2-1801-14100	Leg	4
CA21	141-2-1259-08100	Plate Bottom	1
CA22	131-2-4203-84200	Washer, 4.2x12x1.0 Z	4
CA23	131-2-3101-99900	Metal Mount Trans	1
CA24	⚠ 4-2512-23021	Power Trans	1
CA25	131-2-4201-25201	Screw, Brazier Hd. Tapping-B, Sems +M3.0x8	6
CA26	4-2039-71961	Transistor, 2SA 1302 [Q115, Q215, Q505]	3
or	4-2039-72121	Transistor, 2SA 1301 [Q115, Q215, Q505]	3
CA27	4-2039-71971	Transistor, 2SC 3281 [Q114, Q214, Q506]	3
or	4-2039-72111	Transistor, 2SC 3280 [Q114, Q214, Q506]	3
CA28	141-2-3129-05800	Sub Chassis	1
CA29	141-2-3689-14300	Plate Heat Sink	1
CA30	131-2-4201-17800	Screw Ground	1
CA31	141-2-1219-34801	Panel Rear	1
CA32	131-2-5205-15800	Cushion	1
CA33	141-2-3159-03300	Braket Cover	1
CA34	131-2-6111-14200	Bushing (Power Cord)	1
CA35	⚠ 4-2432-00200	Power Cord	1
CA36	⚠ 4-2312-01020	Switch Slide (AC Selector) [SW411]	1
CA37	⚠ 4-2359-74032	2P Socket With/Nut	2
CA38	131-2-7104-00500	Plate Pad Switch	1
	P.C.B. ASSY PARTS LIST		
PCB1	141-0-1939-09162	Main P.C.B. Assy	1
PCB2	141-0-1939-09131	Input P.C.B. Assy	1
PCB3	141-0-1939-09140	Function P.C.B. Assy	1
PCB4	141-0-1939-09151	Tone Control P.C.B. Assy	1
PCB5	141-0-1939-09172	Speaker Terminal P.C.B. Assy	1
PCB6	141-0-1939-09180	Transistor P.C.B. Assy	2
PCB7	141-0-1939-09192	Switch P.C.B. Assy	1
	SCREW PARTS LIST		
CX1	101-3-1302-00311	Screw, Pan Hd. +M2.0x3	4
CX2	101-3-1303-00611	Screw, Pan Hd. +M3.0x6	2
CX3	143-3-1302-60611	Screw, Pan Hd. Tapping-B, +M2.6x6	3
CX4	143-3-1704-00811	Screw, Bind Hd. Tapping-B, +M4.0x8	4
CX5	143-3-1902-60611	Screw, Brazier Hd. Tapping-B, +M2.6x6	6
CX6	143-3-1903-00611	Screw, Brazier Hd. Tapping-B, +M3.0x6	36
CX7	143-3-1903-00618	Screw, Brazier Hd. Tapping-B, +M3.0x6	9
CX8	143-3-1903-00818	Screw, Brazier Hd. Tapping-B, +M3.0x8	13
CX9	143-3-1903-01011	Screw, Brazier Hd. Tapping-B, +M3.0x10	12
CX10	143-3-1203-00611	Screw, Flat Hd. Tapping-B, +M3.0x6	2
CX11	101-3-1302-60618	Screw, Pan Hd., +M2.6x6	4
CX12	101-3-1303-00618	Screw, Pan Hd., +M3.0x6	2

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

RECOMMENDED TEST EQUIPMENTS

The following test equipments are recommended to completely test and align the Amplifier:

- Line Voltage Isolation Transformer
- AC DC Multimeter
- Accurately Calibrated AC Voltmeter
- Oscilloscope (Flat to 100 kHz Minimum)
- Low-Distortion Audio Sine-Wave Generator
- Harmonic Distortion Analyzer
- Two (2) Load Resistors 8-ohms, 250 Watts (Minimum Rating)

HARMONIC DISTORTION TEST

CAUTION: Limit the following tests to no more than ten minutes each. Use 8-ohm resistors, with a minimum power rating of 250 watts when connecting a load across the SPEAKERS terminal.

CONTROL SETTINGS:

Unplug the AC power cord and set the front panel controls as follows:

- TONE control to center position.
- BALANCE control to center position.
- POWER switch to OFF
- SPEAKERS switch to OFF
- FUNCTION switch to AUX/VIDEO
- LOUDNESS switch to OFF
- VOLUME control to MINIMUM position
- LEFT CHANNEL DRIVEN

ONE CHANNEL DRIVEN:

1) Connect a low distortion audio generator to LEFT AUX IN jack. Set generator frequency to 1 kHz and output to minimum.

2) Connect an 8-ohm load resistor between SPEAKERS SYSTEM-A LEFT and COM terminals. Connect a Harmonic Distortion Analyzer and an AC VTVM in parallel across the 8-ohm load.

3) Connect the AC power cord and set SPEAKERS switch to ON position. Turn VOLUME control to MAX.

4) Increase generator output for 100 Watts RMS (28.2 volts across the 8-ohm load). Harmonic Distortion Analyzer should measure 0.05 % distortion or less.

5) Repeat steps 1 through 4 for RIGHT CHANNEL.

BOTH CHANNELS DRIVEN

Connect 8-ohm load resistors across LEFT and RIGHT SPEAKERS SYSTEM-A terminals. Adjust generator output and "VOLUME" control for 100 watts at Left and Right Channels (28.2 volts across the 8-ohm loads). Harmonic Distortion Analyzer should measure 0.05 % distortion or less at each channel.

CAUTION: This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.

POWER AMPLIFIER ADJUSTMENT

BEFORE ADJUSTMENT

Unplug the AC power cord and set the front panel controls as follows:

- Power switch to the OFF position.
- Set the SPEAKERS switch to the OFF position.
- Turn the MASTER VOLUME control to the position marked 0 (minimum).
- IDLING CURRENT ADJUSTMENT VR101/VR201 (on the Main P.C.Borad) setting to mechanical center position.
- Connect the AC power cord and Power switch to the ON position.

IDLING CURRENT ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 5 minutes before attempting this adjustment.

LEFT AMPLIFIER

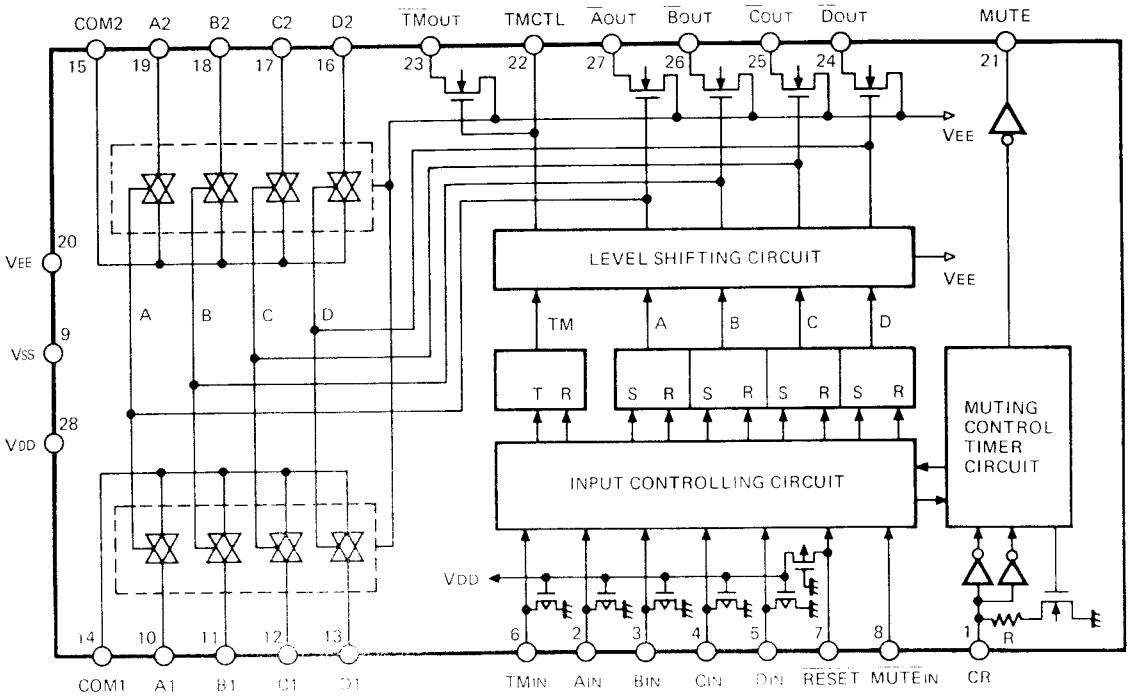
1) Connect the DC VTVM between Pins No.21 and No.22 on the Main P.C.Board.
2) Adjust the VR101 for an indication of 7mV on the DC VTVM.

RIGHT AMPLIFIER

1) Connect the DC VTVM between Pins No.23 and No.24 on the Main P.C.Board.
2) Adjust the VR201 for an indication of 7mV on the DC VTVM.

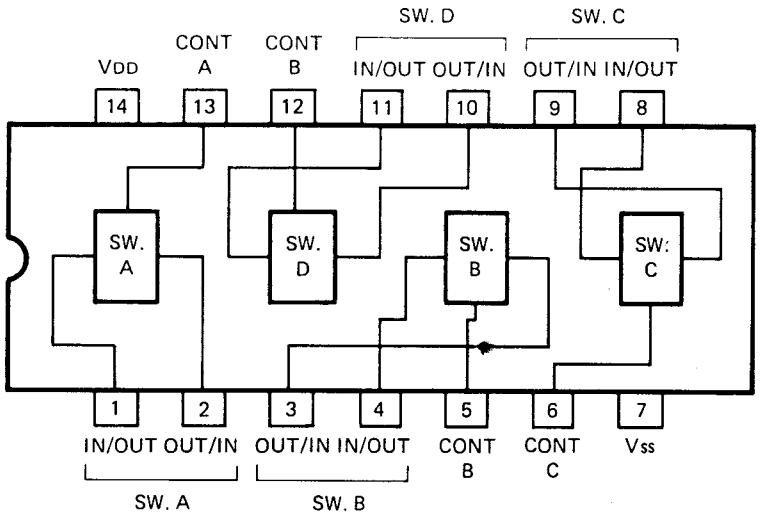
INTEGRATED CIRCUIT BLOCK DIAGRAM

FUNCTION ANALOG SWITCH IC LC 7815 H

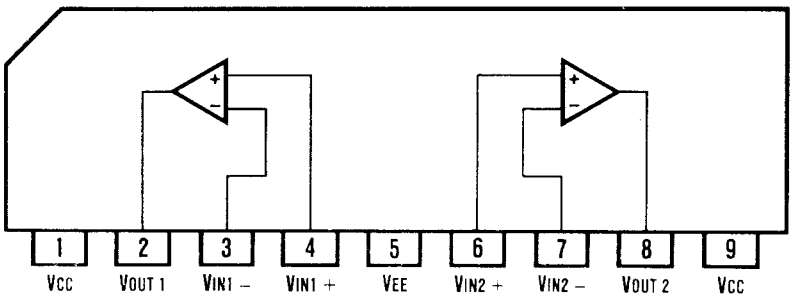


INTEGRATED CIRCUIT BLOCK DIAGRAM (Continued)

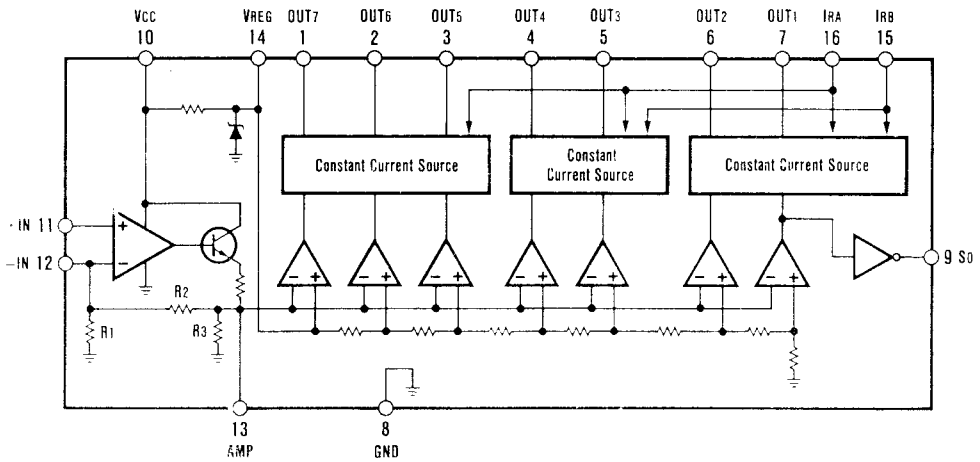
TAPE INPUT ANALOG SWITCH IC LC 4066 B



PHONO / TONE CONTROL AMP IC LA 6458 S



LED METER DRIVE AMP IC IR 2E19



P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C325	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C326	CD2-2-5500-0001V	Electrolytic	2.2μF	50V		1
C401	CD1-0-8160-0001V	Electrolytic	1000μF	16V		1
C402	CD1-0-4500-0001V	Electrolytic	0.1μF	50V		1
C409	CC4-7-3500-ZG00C	Ceramic	0.047μF	50V	+80,-20%	1
	SEMICONDUCTORS					
D401	202-5-3160-00110	Diode, GMA 01				1
D402	202-5-3160-00110	Diode, GMA 01				1
D403	202-5-3160-00110	Diode, GMA 01				1
D404	202-5-3160-00110	Diode, GMA 01				1
IC401	4-2069-74450	IC, M 5218 L-R				1
IC402	206-5-8897-81520	IC, LC 7815 H				1
IC403	206-5-8144-06610	IC, LC 4066 BH				1
	RESISTORS					
R101	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R102	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R103	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R104	RD3-3-1161-JH000	Carbon	330Ω	1/6W	±5%	1
R105	RD2-2-4161-JH000	Carbon	220kΩ	1/6W	±5%	1
R106	RD1-5-3161-JH000	Carbon	15kΩ	1/6W	±5%	1
R107	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R108	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R109	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R110	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R111	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R112	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R113	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R114	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R115	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R116	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R117	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R118	RD8-2-3161-JH000	Carbon	82kΩ	1/6W	±5%	1
R201	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R202	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R203	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R204	RD3-3-1161-JH000	Carbon	330Ω	1/6W	±5%	1
R205	RD2-2-4161-JH000	Carbon	220kΩ	1/6W	±5%	1
R206	RD1-5-3161-JH000	Carbon	15kΩ	1/6W	±5%	1
R207	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R208	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R209	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R210	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R211	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R212	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R213	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R214	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R215	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R216	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R217	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R218	RD8-2-3161-JH000	Carbon	82kΩ	1/6W	±5%	1
R315	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R316	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R317	RD2-2-1251-JM000	Carbon	220Ω	1/4W	±5%	1
R318	RD2-7-1251-JM000	Carbon	270Ω	1/4W	±5%	1
R319	RD2-7-2161-JH000	Carbon	2.7kΩ	1/6W	±5%	1
R320	RD2-2-4161-JH000	Carbon	220kΩ	1/6W	±5%	1
R321	RD1-0-3161-JH000	Carbon	10kΩ	1/6W	±5%	1
R401	RD4-7-2251-JM000	Carbon	4.7kΩ	1/4W	±5%	1
R402	RD1-0-3161-JH000	Carbon	10kΩ	1/6W	±5%	1
R403	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R404	RD5-6-3161-JH000	Carbon	56kΩ	1/6W	±5%	1

Ref. No.	Part No.	Description				Q'ty
	FUNCTION P.C.B. ASSY					
PCB3	141-0-1939-09140	Function P.C.B. Assy				1
	4-2262-22050	Function P.C.B.				1
	141-2-2419-33000	Reflector				1
SW401	4-2312-05300	Keyboard Switch 6mm (Phono)				1
SW402	4-2312-05300	Keyboard Switch 6mm (Tuner)				1
SW403	4-2312-05300	Keyboard Switch 6mm (Compact Disc)				1
SW404	4-2312-05300	Keyboard Switch 6mm (AUX/Video)				1
SW405	4-2312-05300	Keyboard Switch 6mm (Tape Monitor)				1
B	4-2359-77807	Connector 5P Assy				1
C	4-2359-77808	Connector 6P Assy				1
	CAPACITORS					
C403	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C404	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C405	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C406	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C407	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
	SEMICONDUCTORS					
D311	202-5-3210-10011	Zener Diode, GZA 10 X				1
D312	202-5-3210-10011	Zener Diode, GZA 10 X				1
D405	4-2029-73860	L.E.D., SEL 1413 E (Phono)				1
D406	4-2029-73860	L.E.D., SEL 1413 E (Tuner)				1
D407	4-2029-73860	L.E.D., SEL 1413 E (Compact Disc)				1
D408	4-2029-73860	L.E.D., SEL 1413 E (AUX/Video)				1
D409	4-2029-73850	L.E.D., SEL 1213 C (Tape Monitor)				1
	RESISTORS					
R322	RD5-6-1251-JM000	Carbon	560Ω	1/4W	±5%	1
R323	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R324	RD1-0-3251-JM000	Carbon	10kΩ	1/4W	±5%	1
	TONE CONTROL P.C.B. ASSY					
PCB4	141-0-1939-09151	Tone Control P.C.B. Assy				1
	4-2262-22060	Tone Control P.C.B.				1
SW406	4-2319-77780	Swich Push 1 Key (Meter Lange)				1
SW407	4-2319-77780	Swich Push 1 Key (Loudness)				1
VR402	4-2229-75600	Slide Volume (W-250kΩx2. Bass)				1
VR403	4-2229-75600	Slide Volume (W-250kΩx2. Treble)				1
VR406	4-2229-75590	Slide Volume (W-200kΩ. Balance)				1
VR407	4-2229-75610	Slide Volume (A-100kΩx2. Volume)				1
	141-2-2419-33100	Mount LED				1
	141-2-3769-17800	Spacer LED				1
A	4-2359-77809	Connector 6P Assy				1
D	131-0-4006-31418	Cord Assy				1
E	131-0-4006-31423	Cord Assy				1
	4-2379-21120	Terminal				1
	CAPACITORS					
C121	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C122	CC1-0-1500-KE01R	Ceramic	100pF	50V	±10%	1
C123	CC6-8-0500-KD00C	Ceramic	68pF	50V	±10%	1
C124	CC1-0-0500-DD00C	Ceramic	10pF	50V	±0.5pF	1
C125	CD1-0-6160-0002V	Electrolytic	100μF	16V		1
C126	CD4-7-5250-0002V	Electrolytic	4.7μF	25V		1
C127	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C129	CD1-0-6160-0002V	Electrolytic	100μF	16V		1
C130	CM1-0-3500-J00TV	Mylar	0.01μF	50V	±5%	1
C134	CM2-2-3500-J00BV	Mylar	0.022μF	50V	±5%	1
C135	CC2-7-1500-KD00C	Ceramic	270pF	50V	±10%	1
C138	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C139	CM4-7-3500-J00TV	Mylar	0.047μF	50V	±5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
Q402	203-5-7230-60870	Transistor, 2SA 608				1
or	4-2039-72212	Transistor, 2SA 1115				1
Q501	4-2039-72202	Transistor, 2SC 2603				1
or	203-5-7252-27460	Transistor, 2SC 2274				1
Q502	4-2039-72212	Transistor, 2SA 1115				1
or	203-5-6820-98460	Transistor, 2SA 984				1
Q503	203-5-4910-63160	Transistor, 2SB 631				1
Q504	203-5-4900-60060	Transistor, 2SD 600				1
	RESISTORS					
R146	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R147	RD3-3-2251-JM000	Carbon	3.3kΩ	1/4W	±5%	1
R148	RD6-8-3251-JM000	Carbon	68kΩ	1/4W	±5%	1
R149	RD8-2-2251-JM000	Carbon	8.2kΩ	1/4W	±5%	1
R150	RD2-7-3251-JM000	Carbon	27kΩ	1/4W	±5%	1
R151	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R152	RF1-2-2251-JK000	Fuse	1.2kΩ	1/4W	±5%	1
R153	RD2-7-3251-JM000	Carbon	27kΩ	1/4W	±5%	1
R154	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R155	RD1-5-3251-JM000	Carbon	15kΩ	1/4W	±5%	1
R156	RF8-2-0251-JK000	Fuse	82Ω	1/4W	±5%	1
R157	RF4-7-0251-JK000	Fuse	47Ω	1/4W	±5%	1
R158	RF4-7-0251-JK000	Fuse	47Ω	1/4W	±5%	1
R159	RD6-8-3251-JM000	Carbon	68kΩ	1/4W	±5%	1
R160	RD4-7-1251-JM000	Carbon	470Ω	1/4W	±5%	1
R161	RD4-7-0251-JM000	Carbon	47Ω	1/4W	±5%	1
R162	RD3-3-3251-JM000	Carbon	33kΩ	1/4W	±5%	1
R163	RD8-2-0251-JM000	Carbon	82Ω	1/4W	±5%	1
R164	RF1-0-0251-JK000	Fuse	10Ω	1/4W	±5%	1
R165	RF2-2-A251-JK000	Fuse	2.2Ω	1/4W	±5%	1
R166	RF3-3-1501-JZ000	Fuse	330Ω	1/2W	±5%	1
R167	RF2-2-A251-JK000	Fuse	2.2Ω	1/4W	±5%	1
R168	4-2219-70370	Cement	0.22Ω x2	5W	±10%	1
R169	RD4-7-A251-JM000	Carbon	4.7Ω	1/4W	±5%	1
R170	RH1-0-0102-JZ003	Metal	10Ω	1W	±5%	1
R171	RD1-5-4251-JM000	Carbon	150kΩ	1/4W	±5%	1
R246	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R247	RD3-3-2251-JM000	Carbon	3.3kΩ	1/4W	±5%	1
R248	RD6-8-3251-JM000	Carbon	68kΩ	1/4W	±5%	1
R249	RD8-2-2251-JM000	Carbon	8.2kΩ	1/4W	±5%	1
R250	RD2-7-3251-JM000	Carbon	27kΩ	1/4W	±5%	1
R251	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R252	RF1-2-2251-JK000	Fuse	1.2kΩ	1/4W	±5%	1
R253	RD2-7-3251-JM000	Carbon	27kΩ	1/4W	±5%	1
R254	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R255	RD1-5-3251-JM000	Carbon	15kΩ	1/4W	±5%	1
R256	RF8-2-0251-JK000	Fuse	82Ω	1/4W	±5%	1
R257	RF4-7-0251-JK000	Fuse	47Ω	1/4W	±5%	1
R258	RF4-7-0251-JK000	Fuse	47Ω	1/4W	±5%	1
R259	RD6-8-3251-JM000	Carbon	68kΩ	1/4W	±5%	1
R260	RD4-7-1251-JM000	Carbon	470Ω	1/4W	±5%	1
R261	RD4-7-0251-JM000	Carbon	47Ω	1/4W	±5%	1
R262	RD3-3-3251-JM000	Carbon	33kΩ	1/4W	±5%	1
R263	RD8-2-0251-JM000	Carbon	82Ω	1/4W	±5%	1
R264	RF1-0-0251-JK000	Fuse	10Ω	1/4W	±5%	1
R265	RF2-2-A251-JK000	Fuse	2.2Ω	1/4W	±5%	1
R266	RF3-3-1501-JZ000	Fuse	330Ω	1/2W	±5%	1
R267	RF2-2-A251-JK000	Fuse	2.2Ω	1/4W	±5%	1
R268	4-2219-70370	Cement	0.22Ω x2	5W	±10%	1
R269	RD4-7-A251-JM000	Carbon	4.7Ω	1/4W	±5%	1
R270	RH1-0-0102-JZ003	Metal	10Ω	1W	±5%	1
R271	RD1-5-4251-JM000	Carbon	150kΩ	1/4W	±5%	1
R302	RH4-7-2102-JZ003	Metal	4.7kΩ	1W	±5%	1
R303	RH2-2-0102-JZ003	Metal	22Ω	1W	±5%	1
R304	RH2-2-0102-JZ003	Metal	22Ω	1W	±5%	1
R305	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R306	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R307	RD3-3-1251-JM000	Carbon	330Ω	1/4W	±5%	1
R308	RD3-3-1251-JM000	Carbon	330Ω	1/4W	±5%	1
R309	RF2-2-0251-JK000	Fuse	22Ω	1/4W	±5%	1
R310	RF2-2-0251-JK000	Fuse	22Ω	1/4W	±5%	1
R311	RF2-7-0501-JZ000	Fuse	27Ω	1/2W	±5%	1
R312	RD1-5-0251-JM000	Carbon	15Ω	1/4W	±5%	1
R325	RD2-2-3251-JM000	Carbon	22kΩ	1/4W	±5%	1
R328	RD4-7-2251-JM000	Carbon	4.7kΩ	1/4W	±5%	1
R405	RD6-8-1251-JM000	Carbon	680Ω	1/4W	±5%	1
R406	RD4-7-4251-JM000	Carbon	470kΩ	1/4W	±5%	1
R407	RD2-2-3251-JM000	Carbon	22kΩ	1/4W	±5%	1
R409	RF3-9-1501-JZ000	Fuse	390Ω	1/2W	±5%	1
R501	RD1-0-3251-JM000	Carbon	10kΩ	1/4W	±5%	1
R502	RD1-0-3251-JM000	Carbon	10kΩ	1/4W	±5%	1
R503	RD4-7-4251-JM000	Carbon	470kΩ	1/4W	±5%	1
R504	RD4-7-4251-JM000	Carbon	470kΩ	1/4W	±5%	1
R505	RD6-8-1251-JM000	Carbon	680Ω	1/4W	±5%	1
R506	RD6-8-1251-JM000	Carbon	680Ω	1/4W	±5%	1
R507	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R508	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R509	RD1-8-2251-JM000	Carbon	1.8kΩ	1/4W	±5%	1
R510	RD1-8-2251-JM000	Carbon	1.8kΩ	1/4W	±5%	1
R511	RD5-6-2251-JM000	Carbon	5.6kΩ	1/4W	±5%	1
R512	RD5-6-2251-JM000	Carbon	5.6kΩ	1/4W	±5%	1
R513	RH2-2-0102-JZ003	Metal	22Ω	1W	±5%	1
R514	RH2-2-0102-JZ003	Metal	22Ω	1W	±5%	1
	INPUT P.C.B. ASSY					
PCB2	141-0-1939-09131	Input P.C.B. Assy				1
	4-2262-22040	Input P.C.B.				1
	4-2359-78190	Pin Jack 4P (Tape)				1
	4-2359-78190	Pin Jack 4P (AUX/Video, CD)				1
	4-2359-78190	Pin Jack 4P (Tuner, Phono)				1
A	4-2369-73675	Plug 6P				1
B	4-2369-73674	Plug 5P				1
C	4-2369-73675	Plug 6P				1
	CAPACITORS					
C101	CC3-3-1500-KE01R	Ceramic	330pF	50V	±10%	1
C102	CC3-3-1500-KD00C	Ceramic	330pF	50V	±10%	1
C103	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C105	CC3-3-1500-KD00C	Ceramic	330pF	50V	±10%	1
C106	CD4-7-6160-0001V	Electrolytic	47μF	16V		1
C107	CM1-8-3500-K00SV	Mylar	0.018μF	50V	±10%	1
C108	CM4-7-2500-K00SV	Mylar	0.0047μF	50V	±10%	1
C109	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C110	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C201	CC3-3-1500-KE01R	Ceramic	330pF	50V	±10%	1
C202	CC3-3-1500-KD00C	Ceramic	330pF	50V	±10%	1
C203	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C205	CC3-3-1500-KD00C	Ceramic	330pF	50V	±10%	1
C206	CD4-7-6160-0001V	Electrolytic	47μF	16V		1
C207	CM1-8-3500-K00SV	Mylar	0.018μF	50V	±10%	1
C208	CM4-7-2500-K00SV	Mylar	0.0047μF	50V	±10%	1
C209	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C210	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C321	CD4-7-6160-0001V	Electrolytic	47μF	16V		1
C322	CD4-7-6160-0001V	Electrolytic	47μF	16V		1
C323	CD4-7-6250-0006V	Electrolytic	47μF	25V		1
C324	CD4-7-6250-0006V	Electrolytic	47μF	25V		1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C325	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C326	CD2-2-5500-0001V	Electrolytic	2.2μF	50V		1
C401	CD1-0-8160-0001V	Electrolytic	1000μF	16V		1
C402	CD1-0-4500-0001V	Electrolytic	0.1μF	50V		1
C409	CC4-7-3500-ZG00C	Ceramic	0.047μF	50V	+80,-20%	1
	SEMICONDUCTORS					
D401	202-5-3160-00110	Diode, GMA 01				1
D402	202-5-3160-00110	Diode, GMA 01				1
D403	202-5-3160-00110	Diode, GMA 01				1
D404	202-5-3160-00110	Diode, GMA 01				1
IC401	4-2069-74450	IC, M 5218 L-R				1
IC402	206-5-8897-81520	IC, LC 7815 H				1
IC403	206-5-8144-06610	IC, LC 4066 BH				1
	RESISTORS					
R101	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R102	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R103	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R104	RD3-3-1161-JH000	Carbon	330Ω	1/6W	±5%	1
R105	RD2-2-4161-JH000	Carbon	220kΩ	1/6W	±5%	1
R106	RD1-5-3161-JH000	Carbon	15kΩ	1/6W	±5%	1
R107	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R108	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R109	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R110	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R111	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R112	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R113	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R114	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R115	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R116	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R117	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R118	RD8-2-3161-JH000	Carbon	82kΩ	1/6W	±5%	1
R201	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R202	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R203	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R204	RD3-3-1161-JH000	Carbon	330Ω	1/6W	±5%	1
R205	RD2-2-4161-JH000	Carbon	220kΩ	1/6W	±5%	1
R206	RD1-5-3161-JH000	Carbon	15kΩ	1/6W	±5%	1
R207	RD1-0-4161-JH000	Carbon	100kΩ	1/6W	±5%	1
R208	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R209	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R210	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R211	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R212	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R213	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R214	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R215	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R216	RD1-8-4161-JH000	Carbon	180kΩ	1/6W	±5%	1
R217	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R218	RD8-2-3161-JH000	Carbon	82kΩ	1/6W	±5%	1
R315	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R316	RD1-0-2251-JM000	Carbon	1kΩ	1/4W	±5%	1
R317	RD2-2-1251-JM000	Carbon	220Ω	1/4W	±5%	1
R318	RD2-7-1251-JM000	Carbon	270Ω	1/4W	±5%	1
R319	RD2-7-2161-JH000	Carbon	2.7kΩ	1/6W	±5%	1
R320	RD2-2-4161-JH000	Carbon	220kΩ	1/6W	±5%	1
R321	RD1-0-3161-JH000	Carbon	10kΩ	1/6W	±5%	1
R401	RD4-7-2251-JM000	Carbon	4.7kΩ	1/4W	±5%	1
R402	RD1-0-3161-JH000	Carbon	10kΩ	1/6W	±5%	1
R403	RD1-0-2161-JH000	Carbon	1kΩ	1/6W	±5%	1
R404	RD5-6-3161-JH000	Carbon	56kΩ	1/6W	±5%	1

Ref. No.	Part No.	Description				Q'ty
	FUNCTION P.C.B. ASSY					
PCB3	141-0-1939-09140	Function P.C.B. Assy				1
	4-2262-22050	Function P.C.B.				1
	141-2-2419-33000	Reflector				1
SW401	4-2312-05300	Keyboard Switch 6mm (Phono)				1
SW402	4-2312-05300	Keyboard Switch 6mm (Tuner)				1
SW403	4-2312-05300	Keyboard Switch 6mm (Compact Disc)				1
SW404	4-2312-05300	Keyboard Switch 6mm (AUX/Video)				1
SW405	4-2312-05300	Keyboard Switch 6mm (Tape Monitor)				1
B	4-2359-77807	Connector 5P Assy				1
C	4-2359-77808	Connector 6P Assy				1
	CAPACITORS					
C403	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C404	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C405	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C406	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C407	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
	SEMICONDUCTORS					
D311	202-5-3210-10011	Zener Diode, GZA 10 X				1
D312	202-5-3210-10011	Zener Diode, GZA 10 X				1
D405	4-2029-73860	L.E.D., SEL 1413 E (Phono)				1
D406	4-2029-73860	L.E.D., SEL 1413 E (Tuner)				1
D407	4-2029-73860	L.E.D., SEL 1413 E (Compact Disc)				1
D408	4-2029-73860	L.E.D., SEL 1413 E (AUX Video)				1
D409	4-2029-73850	L.E.D., SEL 1213 C (Tape Monitor)				1
	RESISTORS					
R322	RD5-6-1251-JM000	Carbon	560Ω	1/4W	±5%	1
R323	RD1-2-2251-JM000	Carbon	1.2kΩ	1/4W	±5%	1
R324	RD1-0-3251-JM000	Carbon	10kΩ	1/4W	±5%	1
	TONE CONTROL P.C.B. ASSY					
PCB4	141-0-1939-09151	Tone Control P.C.B. Assy				1
	4-2262-22060	Tone Control P.C.B.				1
SW406	4-2319-77780	Swich Push 1 Key (Meter Lange)				1
SW407	4-2319-77780	Swich Push 1 Key (Loudness)				1
VR402	4-2229-75600	Slide Volume (W-250kΩx2, Bass				1
VR403	4-2229-75600	Slide Volume (W-250kΩx2, Treble				1
VR406	4-2229-75590	Slide Volume (W-200kΩ, Balance				1
VR407	4-2229-75610	Slide Volume (A-100kΩx2, Volume				1
	141-2-2419-33100	Mount LED				1
	141-2-3769-17800	Spacer LED				1
A	4-2359-77809	Connector 6P Assy				1
D	131-0-4006-31418	Cord Assy				1
E	131-0-4006-31423	Cord Assy				1
	4-2379-21120	Terminal				2
	CAPACITORS					
C121	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C122	CC1-0-1500-KE01R	Ceramic	100pF	50V	±10%	1
C123	CC6-8-0500-KD00C	Ceramic	68pF	50V	±10%	1
C124	CC1-0-0500-DD00C	Ceramic	10pF	50V	±0.5pF	1
C125	CD1-0-6160-0002V	Electrolytic	10μF	16V		1
C126	CD4-7-5250-0002V	Electrolytic	4.7μF	25V		1
C127	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C129	CD1-0-6160-0002V	Electrolytic	10μF	16V		1
C130	CM1-0-3500-J00TV	Mylar	0.01μF	50V	±5%	1
C134	CM2-2-3500-J00BV	Mylar	0.022μF	50V	±5%	1
C135	CC2-7-1500-KD00C	Ceramic	470pF	50V	±10%	1
C138	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C139	CM4-7-3500-J00TV	Mylar	0.047μF	50V	±5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C159	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C160	CC1-0-2500-KE01R	Ceramic	0.001μF	50V	±10%	1
C161	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C162	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C221	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C222	CC1-0-1500-KE01R	Ceramic	100pF	50V	±10%	1
C223	CC6-8-0500-KD00C	Ceramic	68pF	50V	±10%	1
C224	CC1-0-0500-DD00C	Ceramic	10pF	50V	±0.5%	1
C225	CD1-0-6160-0002V	Electrolytic	10μF	16V		1
C226	CD4-7-5250-0002V	Electrolytic	4.7μF	25V		1
C227	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C229	CD1-0-6160-0002V	Electrolytic	10μF	16V		1
C230	CM1-0-3500-J00TV	Mylar	0.01μF	50V	±5%	1
C234	CM2-2-3500-J00BV	Mylar	0.022μF	50V	±5%	1
C235	CC2-7-1500-KD00C	Ceramic	270pF	50V	±10%	1
C238	CC2-2-1500-KE01R	Ceramic	220pF	50V	±10%	1
C239	CM4-7-3500-J00TV	Mylar	0.047μF	50V	±5%	1
C259	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C260	CC1-0-2500-KE01R	Ceramic	0.001μF	50V	±10%	1
C261	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C262	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
C319	CD1-0-7250-0006V	Electrolytic	100μF	25V		1
C320	CD1-0-7250-0006V	Electrolytic	100μF	25V		1
C327	CD1-0-6250-0001V	Electrolytic	10μF	25V		1
	SEMICONDUCTORS					
D104	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D105	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D106	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D107	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D108	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D109	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D110	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D204	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D205	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D206	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D207	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D208	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D209	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
D210	D00---SLP--273B-	L.E.D., SLP 273 B (Power Level Meter)				1
IC101	4-2069-73670	IC, IR 2 E 19				1
IC201	4-2069-73670	IC, IR 2 E 19				1
IC404	206-5-3266-45810	IC, LA 6458 SS				1
Q102	203-5-5000-53660	Transistor, 2SC 536				1
Q103	203-5-5000-53660	Transistor, 2SC 536				1
Q202	203-5-5000-53660	Transistor, 2SC 536				1
Q203	203-5-5000-53660	Transistor, 2SC 536				1
	RESISTORS					
R119	RD1-5-4161-JH000	Carbon	150kΩ	1/6W	±5%	1
R120	RD2-7-2161-JH000	Carbon	2.7kΩ	1/6W	±5%	1
R121	RD4-7-2161-JH000	Carbon	4.7kΩ	1/6W	±5%	1
R122	RD3-3-2161-JH000	Carbon	3.3kΩ	1/6W	±5%	1
R123	RD4-7-2161-JH000	Carbon	4.7kΩ	1/6W	±5%	1
R124	RD2-2-2161-JH000	Carbon	2.2kΩ	1/6W	±5%	1
R126	RD8-2-1161-JH000	Carbon	820Ω	1/6W	±5%	1
R127	RD8-2-1161-JH000	Carbon	820Ω	1/6W	±5%	1
R131	RD1-0-5161-JH000	Carbon	150kΩ	1/6W	±5%	1
R132	RD2-2-3161-JH000	Carbon	22kΩ	1/6W	±5%	1
R136	RD3-9-1161-JH000	Carbon	390Ω	1/6W	±5%	1
R137	RD3-9-1161-JH000	Carbon	390Ω	1/6W	±5%	1
R141	RD5-6-2161-JH000	Carbon	5.6kΩ	1/6W	±5%	1
R142	RD5-6-2161-JH000	Carbon	5.6kΩ	1/6W	±5%	1
R145	RD5-6-2161-JH000	Carbon	5.6kΩ	1/6W	±5%	1

Ref. No.	Part No.	Description				Q'ty
R172	RD1-5-2161-JH000	Carbon	1.5kΩ	1/6W	±5%	1
R173	RD3-9-2161-JH000	Carbon	3.9kΩ	1/6W	±5%	1
R174	RD3-3-2161-JH000	Carbon	3.3kΩ	1/6W	±5%	1
R219	RD1-5-4161-JH000	Carbon	150kΩ	1/6W	±5%	1
R220	RD2-7-2161-JH000	Carbon	2.7kΩ	1/6W	±5%	1
R221	RD4-7-2161-JH000	Carbon	4.7kΩ	1/6W	±5%	1
R222	RD3-3-2161-JH000	Carbon	3.3kΩ	1/6W	±5%	1
R223	RD4-7-2161-JH000	Carbon	4.7kΩ	1/6W	±5%	1
R224	RD2-2-2161-JH000	Carbon	2.2kΩ	1/6W	±5%	1
R226	RD8-2-1161-JH000	Carbon	820Ω	1/6W	±5%	1
R227	RD8-2-1161-JH000	Carbon	820Ω	1/6W	±5%	1
R231	RD1-5-4161-JH000	Carbon	150kΩ	1/6W	±5%	1
R232	RD2-2-3161-JH000	Carbon	22kΩ	1/6W	±5%	1
R236	RD3-9-1161-JH000	Carbon	390Ω	1/6W	±5%	1
R237	RD3-9-1161-JH000	Carbon	390Ω	1/6W	±5%	1
R241	RD5-6-2161-JH000	Carbon	5.6kΩ	1/6W	±5%	1
R242	RD5-6-2161-JH000	Carbon	5.6kΩ	1/6W	±5%	1
R245	RD5-6-2161-JH000	Carbon	5.6kΩ	1/6W	±5%	1
R272	RD1-5-2161-JH000	Carbon	1.5kΩ	1/6W	±5%	1
R273	RD3-9-2161-JH000	Carbon	3.9kΩ	1/6W	±5%	1
R274	RD3-3-2161-JH000	Carbon	3.3kΩ	1/6W	±5%	1
R313	RD5-6-A161-JH000	Carbon	5.6Ω	1/6W	±5%	1
R314	RD5-6-A161-JH000	Carbon	5.6Ω	1/6W	±5%	1
	SPEAKER TERMINAL P.C.B. ASSY					
PCB5	141-0-1939-09172	Speaker Terminal P.C.B. Assy				1
	4-2262-22080	Speaker Terminal P.C.B.				1
	4-2372-01160	Speaker 8P Terminal (Speaker)				1
	111-2-6220-11100	Wire Wrap Terminal				6
	CAPACITORS					
C507	CC4-7-1500-KE00C	Ceramic	470pF	50V	±10%	1
C508	CC4-7-1500-KE00C	Ceramic	470pF	50V	±10%	1
C509	CC4-7-1500-KE00C	Ceramic	470pF	50V	±10%	1
C510	CC4-7-1500-KE00C	Ceramic	470pF	50V	±10%	1
	TRANSISTOR P.C.B. ASSY					
PCB6	141-0-1939-09180	Transistor P.C.B. Assy				2
	4-2262-22090	Transistor P.C.B.				1
	SEMICONDUCTORS					
D412	205-5-9040-44210	Diode, DS 442				1
Q403	4-2039-72100	Transistor, 2SD 947				1
	SWITCH P.C.B. ASSY					
PCB7	141-0-1939-09192	Switch P.C.B. Assy				1
	4-2262-22100	Switch P.C.B.				1
	⚠ 4-2349-20380	Fuse T1.0A				2
	4-2352-00200	Fuse Holder				4
	131-2-7103-40400	Label 1.0AT 4x13				1
S408	⚠ 4-2319-76340	Switch Push Power (Power)				1
S409	4-2319-77340	Switch Push 1 Key (Speaker A)				1
S410	4-2319-77340	Switch Push 1 Key (Speaker B)				1
	4-2352-00970	Headphone Jack 3P (Headphones)				1
	111-2-6220-11100	Wire Wrap Terminal				5
	131-2-6114-00200	Cover Safety				1
	4-2372-00830	EC Terminal 1P				2
	4-2439-72192	Wire 6 Parallel				*
	4-2439-72193	Wire 2 Parallel				*

Ref. No.	Part No.	Description				Q'ty
	CAPACITOR					
C301 ⚠	4-2239-70970	Capacitor	0.01μF	400V	+100,-0%	1
	RESISTORS					
R175	RH5-6-1202-JZ000	Metal	560Ω	2W	±5%	1
R176	RD2-2-1251-JM000	Carbon	220Ω	1/4W	±5%	1
R177	RD2-7-1251-JM000	Carbon	270Ω	1/4W	±5%	1
R275	RH5-6-1202-JZ000	Metal	560Ω	2W	±5%	1
R276	RD2-2-1251-JM000	Carbon	220Ω	1/4W	±5%	1
R277	RD2-7-1251-JM000	Carbon	270Ω	1/4W	±5%	1

NOTES:

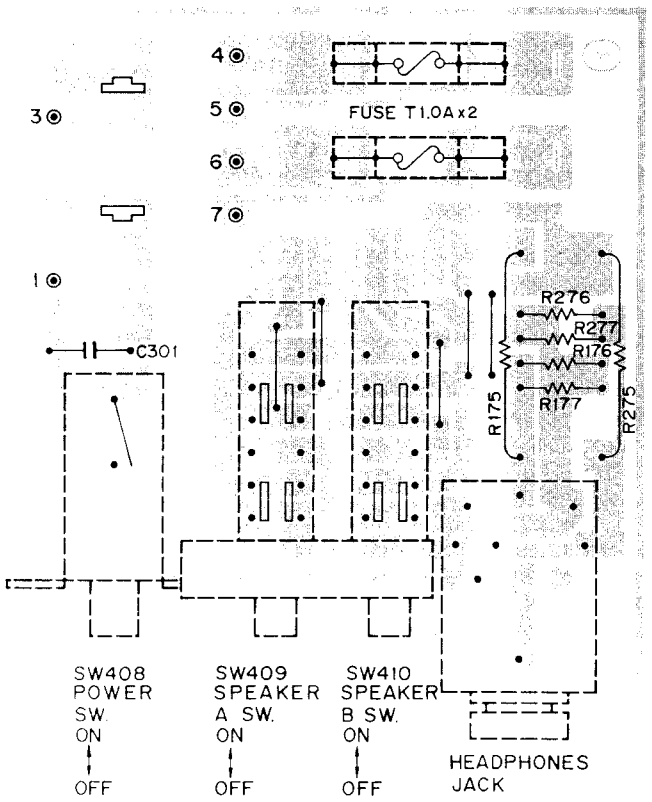
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

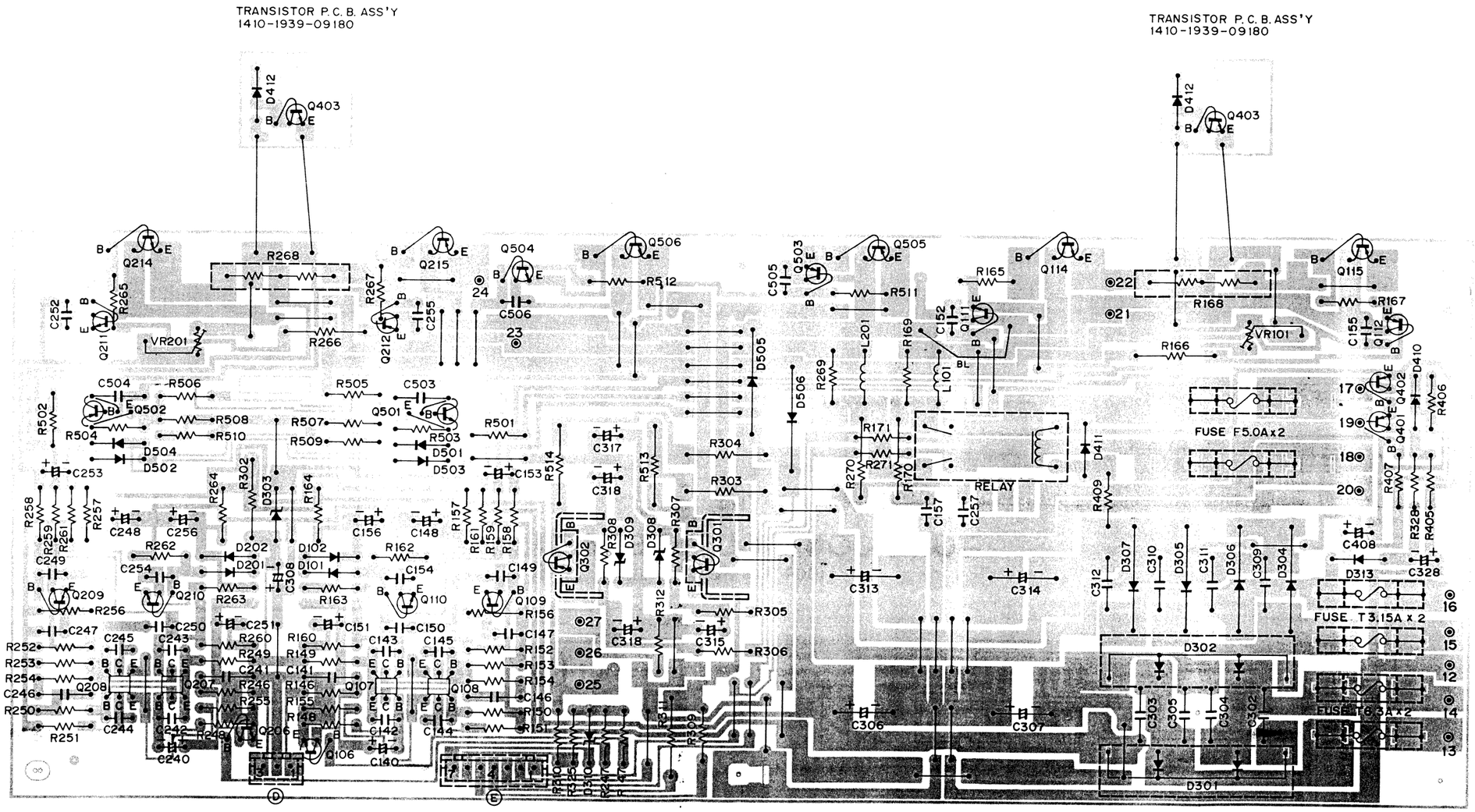
SWITCH P.C.BOARD

(BOTTOM VIEW)



MAIN PRINTED CIRCUIT BOARD

(BOTTOM VIEW)


TRANSISTOR P.C.B. ASS'Y
1410-1939-09180
TRANSISTOR P.C.B. ASS'Y
1410-1939-09180
D412
Q403
Q214
R268
Q215
Q504
Q506
Q503
Q505
Q114
Q115
R165
R511
R512
R168
R167
VR101
R166
C252
R265
Q211
VR201
R266
R267
Q212
C255
C506
C504
R506
Q502
R508
R510
R505
C503
Q501
R507
R509
R501
R503
D501
D503
C253
C317
C318
C153
R514
R513
R304
R303
R307
Q301
D308
D309
R308
Q302
R312
C313
C314
C315
R305
R306
C306
C307
C505
D506
R269
L201
R169
C152
Q111
L101
R171
R270
R271
R170
RELAY
D411
R409
C157
C257
FUSE F5.0A×2
FUSE T3.15A×2
FUSE T6.3A×2
D313
C408
C328
R407
R328
R405
R406
D410
Q401
Q402
C155
Q112
D307
D310
D305
D311
D306
D309
D304
C312
C310
C311
C309
C303
C305
C304
C302
D302
D301
R502
R504
D504
D502
C253
R264
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C150
R160
R149
R146
R148
R155
Q107
Q108
Q106
R258
R259
R261
R257
C248
C256
C249
R256
Q209
Q210
C250
C251
C247
R252
R253
R254
C246
R250
R251
C245
C243
C241
C244
C240
R260
R249
R246
R255
Q208
Q207
Q206
R248
R247
C254
R262
R310
R311
R309
R308
R307
R305
R306
R303
R304
R513
R514
C317
C318
C153
R501
R503
D501
D503
C504
R506
Q502
R508
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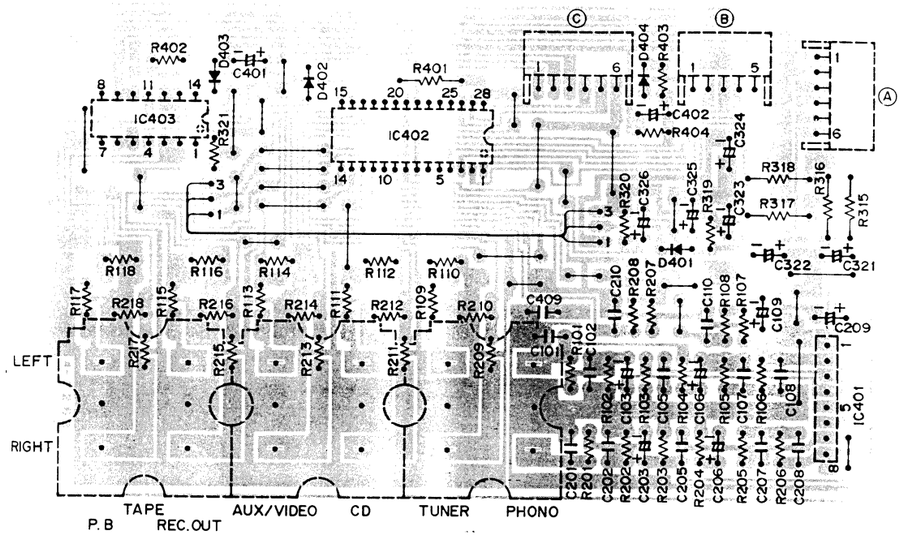
R505
C503
Q501
R507
R509
C505
Q503
Q505
R511
R512
D506
R269
L201
R169
C152
Q111
L101
R165
Q114
R171
R270
R271
R170
RELAY
D411
R409
C157
C257
C313
C314
C315
R305
R306
C306
C307
D302
D301
C303
C305
C304
C302
D307
D310
D305
D311
D306
D309
D304
C312
C310
C311
C309
D313
C408
C328
R407
R328
R405
R406
D410
Q401
Q402
C155
Q112
R168
R167
VR101
R166
FUSE F5.0A×2
FUSE T3.15A×2
FUSE T6.3A×2
RELAY

INPUT P.C.BOARD

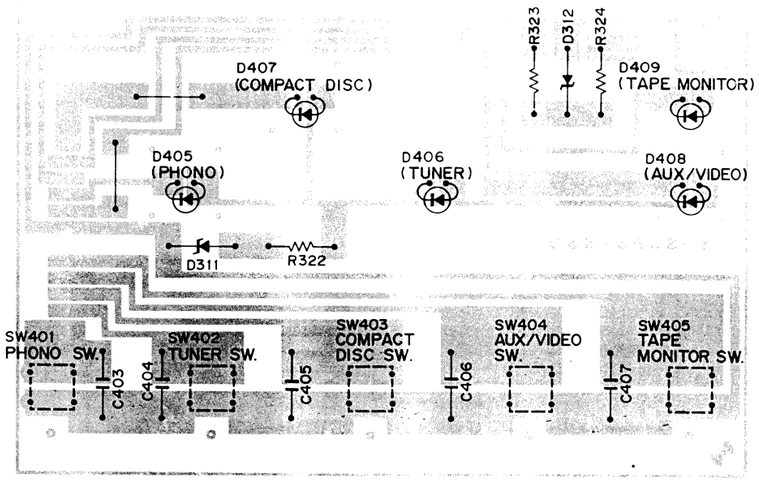
(BOTTOM VIEW)



IC PIN NUMBERS DC VOLTAGES															
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC401	M5218L	11.8V	0V	0V	0V	−11.6V	0V	0V	0V						
IC403	LC4066	0V	0V	0V	0V	−9.1V	−9.1V	−11.0V	0V	0V	0V	0V	11.5V	11.5V	11.5V

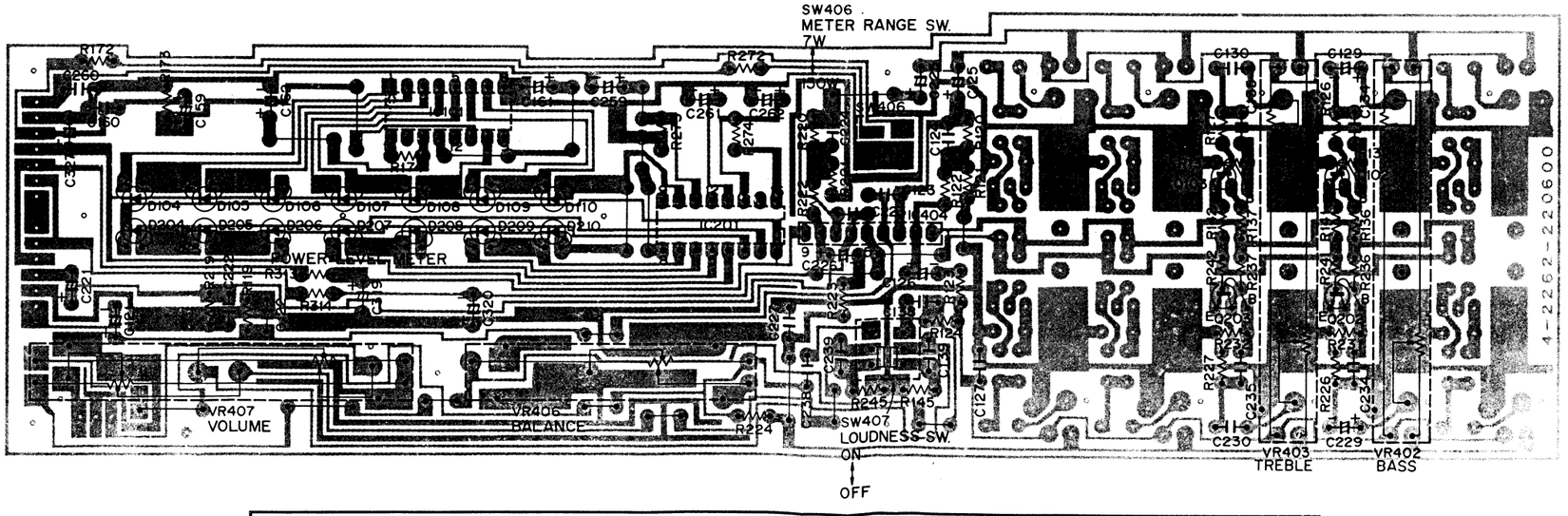
FUNCTION P.C.BOARD

(BOTTOM VIEW)



TONE CONTROL P.C.BOARD

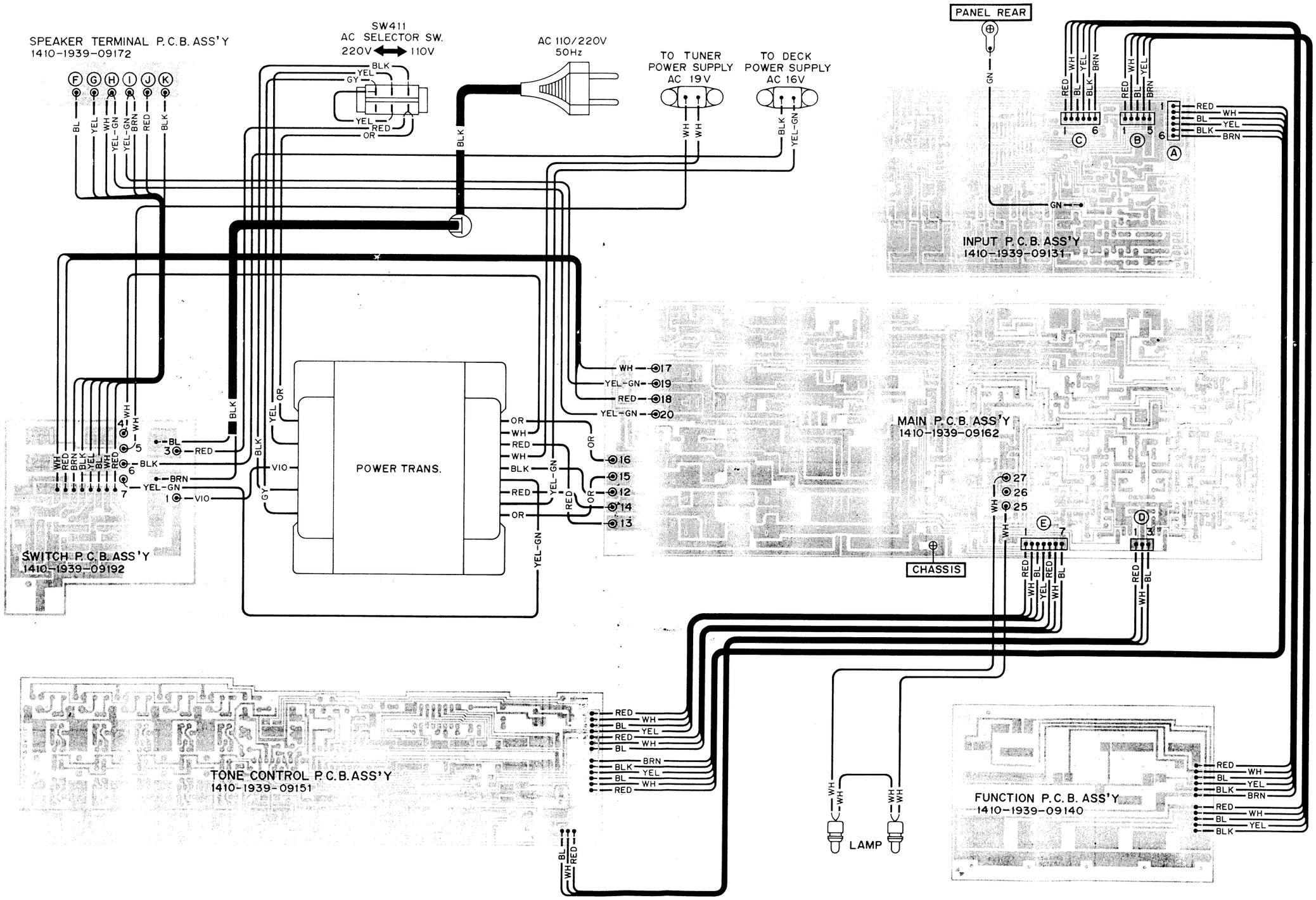
(BOTTOM VIEW)



IC PIN NUMBERS DC VOLTAGES																	
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101,102	IR2E19	12.4V	13.9V	15.4V	13.9V	15.4V	13.9V	15.4V	0V	0.3V	16.9V	0V	0V	0V	2.7V	0V	0.9V
IC404	LA6458	15.9V	0V	0V	0V	−15.8V	0V	0V	0V	15.9V							

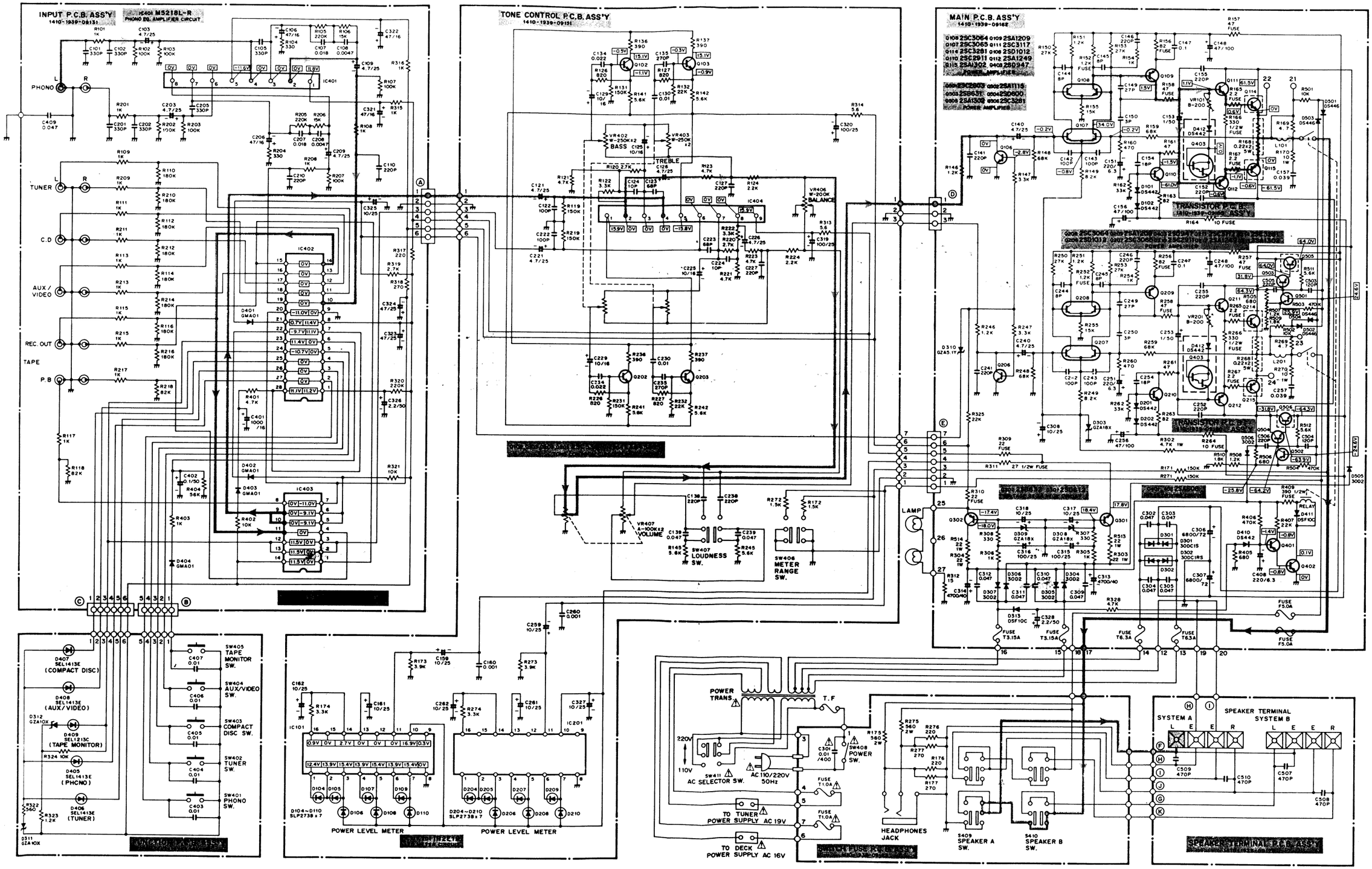
TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q102,202	2SC536	−0.5V	15.1V	−1.1V
Q103,203	2SC536	−0.3V	15.1V	−0.9V

POINT TO POINT WIRING DIAGRAM

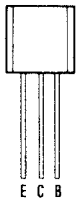
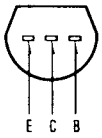
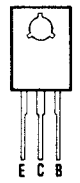
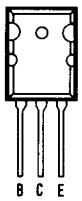
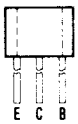
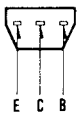
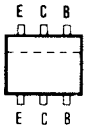
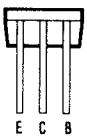


SCHEMATIC DIAGRAM

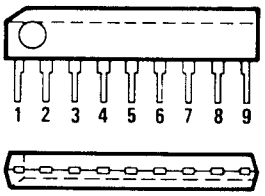
No.	Name	Position	No.	Name	Position
SW401	PHONO Switch	OFF	SW407	LOUDNESS Switch	OFF
SW402	TUNER Switch	OFF	SW408	POWER Switch	OFF
SW403	COMPACT DISC Switch	OFF	SW409	SPEAKER A Switch	OFF
SW404	AUX/VIDEO Switch	OFF	SW410	SPEAKER B Switch	OFF
SW405	TAPE MONITOR Switch	OFF	SW411	AC SELECTOR Switch	220V
SW406	METER RANGE Switch	150W			



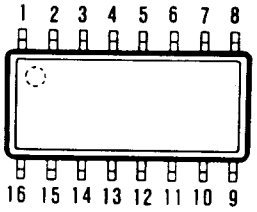
SEMICONDUCTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC536 2SA608 2SA1115 2SC2603		
2SA1209 2SA1249 2SC2911 2SC3117 2SB631 2SB632 2SD600 2SD612		
2SA1302 2SC3281		
2SD1012		
2SC3064 2SC3065		
TERMINAL NAME		
B — BASE C — COLLECTOR E — EMITTER		

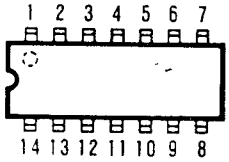
LA6458S FRONT / BOTTOM VIEWS



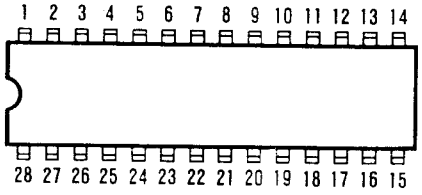
IR2E19 BOTTOM VIEW



LC4066B BOTTOM VIEW



LC7815 BOTTOM VIEW



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTES:

1. All resistors values are indicated in "ohm" (K=10^3, M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages are with respect to chassis ground.
   c. No signals at input terminals.
   d. AC input at 220 volts 50 Hz.
   e. This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.